



CEIC Annual Report 2023

The work of the CEIC is basically organized on the basis of 4-year terms between two ICMs, under the leadership of a chairperson appointed for that period. Thus, the year 2023 was the first of the 4-year term 2023-2026. In late February/early March 2023, some CEIC members with ongoing/terminated terms were asked if they would be willing to continue their work, and some new members were nominated; all were confirmed by the IMU EC in March 2024. It is therefore now composed of the following persons:

- Ilka Agricola (Germany), Chair, 2023-2026
- Jean-Pierre Bourguignon (France), 2021-2024 (first term)
- Kevin Buzzard (UK), 2021-2024 (first term)
- Marie Farge (France), 2019-2026 (second term)
- Rajeev Karandikar (India), 2019-2026 (second term)
- Takashi Kumagai (Japan), 2023-2026 (first term)
- Ingrid Rewitzky (South Africa), 2021-2024 (first term)
- Peter Taylor (Australia), 2023-2026 (first term)

The IMU EC liaison officer for the term 2023-2026 is Ulrike Tillmann (UK). The committee started its work therefore effectively in April 2023.

Organisational aspects & internal work

Since half of the CEIC members were new and the last meeting had been in mid 2022, the first activities were devoted to introducing the members to each other, sharing their experience and expectations (see the enclosed questionnaires); IA spent some substantial time establishing contacts with other organisations and persons pursuing similar goals (see below for details). As a platform for information and exchange, all documents are shared via a cloud drive. There were only two meetings in 2023, namely online on Friday April 28, and on Monday November 13, with an interims report by the Chair in September. The main reason for the long gap was a severe illness of the Chair in May/June and the resulting difficulties in catching up. During these meetings, we had two presentations by CEIC members:

- Kevin Buzzard (April 28, 2023): *Recent developments around Theorem Provers and AI*
- Marie Farge (November 13): *Publishing research articles in Diamond Open Access*

Both presentations led to intensive and insightful discussions among the members of the committee, which are recorded in the respective minutes. In many respects, both presentations opened the eyes of the members to how far-reaching the relevant issues are. From the Chair's point of view, the presentations were very helpful in making the specialised knowledge of the individual members better known throughout the Committee. It also sharpened the committee's opinions on what the vision and challenges of a Global Digital Math Library (GDML) might actually be in detail. One outcome of the discussions is that CEIC will prepare a collection of case studies of questions relevant to math publishing in the countries of their members, as it has become clear that the national situations are extremely diverse. The talk by Kevin Buzzard was very much under the influence of the recent release of ChatGPT, resulting in the questions whether the CEIC should make recommendations or any other kind of statement on the use of AI in math; we finally decided against such a statement, mainly because progress is extremely fast, the question is too large for this kind of committee, and many issues (like: consequences for conducting exams), while being crucial for our daily work, rely on too many national or even local conditions / parameters.

Committee on Permissions (CoP)

This is an ad-hoc committee of the IMU „to advise the IMU on a negotiating strategy regarding the window for open access“ proposed by the previous CEIC and chaired by Thomas Brennan (Harvard Law School, US). Here is the state of affairs (from an email of Tom, 9/9/23):

„As you likely know from Stephen [Watt], we are beginning the writing of our report after a lengthy process of scheduling and carrying out interviews and conducting surveys over the past many months since I last spoke with you in February [2023]. It has been a lot of work, and I am grateful to everyone on the committee to keeping at it despite substantial challenges and frustrations in getting meetings set up with publishers, etc.

Nevertheless, preparing the report turned out to be rather challenging, so it is now expected in May 2024. Certainly, it will constitute a database of information that we have never had in such a quality, and CEIC is prepared for analysing it in full depth and preparing recommendations based on it.

IMKT (International Mathematical Knowledge Trust)

<https://imkt.org>

After some hard times during the pandemic, a new board was elected recently, including some former CEIC members (Stephen Watt, U Waterloo; Patrick Ion) and CoP members (Samuel Hansen, U Michigan; Evelyne Miot, France / Centre Mersenne). The Chair is now in regular exchange with IMKT and participating in its board meetings as a guest. One goal is to prepare a

structured overview of active math online resources and to possibly create a „meta platform“ for them, based on some existing initiatives.

PED - EMS Committee on Publication and Electronic Dissemination

The EMS (European Mathematical Society) maintains a similar committee, the EMS Committee on Publication and Electronic Dissemination. Olaf Teschke from zbMathOpen and Evelyne Miot are members. The Chair made contact for an exchange of ideas, but this had no further consequences. We should probably make another try.

Future of ArXiv

There have been several discussions in 2023 about the possible future of the ArXiv, related to the issue of securing long-term funding and the options for legal status (who will be in control, will it remain a Cornell University project?). There is general agreement within the CEIC that the ArXiv is an important part of the international scientific infrastructure. On the initiative of Shin-Tung Yau (Beijing Centre for Mathematical Science), there has been an offer from the Chinese Academy of Sciences to move the ArXiv to China / Hong Kong. IA had several meetings with people from Beijing and ArXiv. In the end, the Simons Foundation did decide to continue their funding. Further information may be found in the Press release for ArXiv funding by the Simons Foundation (October 2023):

<https://news.cornell.edu/stories/2023/10/research-repository-arxiv-receives-10m-upgrades>

There is a severe lack of moderators in mathematics at ArXiv, hence the Chair posted a call for applications in the IMU News 122 from November 2023. Unfortunately, we do not know of any applications resulting from this call.

CoData Meeting in Salzburg, October 2023

<https://codata.org>

IA attended the Codata General Assembly as a representative of the IMU in October 2023. A separate report on it was delivered to the CEIC members and the EC.

Workshop Perspectives on Electronic Information and Communication in the Mathematical Sciences

This workshop is funded by the Simons Foundation and is to take place at its headquarters in New York September 12-13, 2024. The plan is not only to have a meeting of the CEIC, but also a joint meeting with people from other institutions and committees (IMKT, CoP, ArXiv and many more).

Signed: Ilka Agricola (CEIC Chair), March 13, 2024 (after approval by the CEIC by email)